

1 1. In a system including a display device for displaying an image, the image
2 having one or more sources, a method for compositing the image, the method comprising
3 the acts of:

4 dividing the image into one or more slices, each slice including at least one
5 line;

6 dividing each line in each slice into at least one span, wherein each span has
7 at least one associated source included in the one or more sources and each line in
8 each slice has the same associated sources;

9 for each span in each line, reading data from the associated source without
10 using an image buffer; and

11 displaying the data on the display device.

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13 2. A method as defined in claim 1, wherein the act of reading data from the
14 associated source further comprises the step of loading each associated source in memory.

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16 3. A method as defined in claim 1, further comprising the act of creating a
17 control structure having context information for the image.

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19 4. A method as defined in claim 3, wherein the control structure comprises:
20 an image header;
21 one or more slice headers associated with the image header;
22 one or more span headers associated with each slice header; and
23 one or more stream headers associated with each span header.
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1 5. A method as defined in claim 3, wherein the act of reading data further
2 comprises the act of reading contiguous pixel data for each span from each associated
3 source.

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5 6. A method as defined in claim 1, wherein the step of reading data further
6 comprises the act of blending the one or more sources.

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8 7. A method as defined in claim 6, wherein the act of blending the one or more
9 sources further comprises the acts of:

10 blending, in a first blend unit, each of the one or more sources having a first
11 color space;

12 blending, in a second blend unit, each of the one or more sources having a
13 second color space;

14 converting an output of the first blend unit to the second color space; and

15 blending the converted output of the first blend unit with a second output of
16 the second blend unit to produce a blended output.

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18 8. A method as defined in claim 1, further comprising the act of refraining
19 from reading some of the one or more sources if data from another one of the sources is
20 visible and opaque.

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22 9. A method as defined in claim 1, wherein the act of reading data further
23 comprises the act of filtering a span using vertically adjacent spans.

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1 10. In a system including a display device for displaying an image, each image
2 being generated from one or more sources, each source having data, a method for
3 compositing the image, the method comprising the acts of:

4 generating a control structure having context information describing the
5 image, wherein the context information identifies the one or more sources;

6 reading the data of the one or more sources according to the context
7 information without storing the data in an image buffer; and

8 displaying the read data on the display device as the data is read from the
9 one or more sources.

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11 11. A method as defined in claim 10, wherein the act of generating the control
12 structure further comprises the act of dividing the image into one or more slices, each slice
13 having one or more lines and each line having one or more spans, wherein at least one of
14 the one or more sources is associated with each span and wherein each at least one source
15 provides a data stream for the associated span.

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17 12. A method as defined in claim 11, wherein the control structure comprises:
18 one or more slice headers defining the one or more slices;
19 for each slice header, one or more span headers defining the one or more
20 spans; and
21 for each span header, one or more steam headers defining one or more data
22 streams.

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1 13. A method as defined in claim 10, further comprising the act of loading the
2 one or more sources in memory of the system.

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4 14. A method as defined in claim 10, wherein the act of reading the data further
5 comprises the act of blending the data, wherein the data is obtained from one or more data
6 streams.

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8 15. A method as defined in claim 14, wherein the act of blending the data
9 further comprises the acts of:

10 blending all of the one or more data streams having a first color space into a
11 first output;

12 blending all of the one or more data streams having a second color space
13 into a second output;

14 converting the first output to the second color space; and

15 blending the first output with the second output.

16
17 16. A method as defined in claim 10, wherein the act of reading the data further
18 comprises the act of filtering a span using vertically adjacent spans, wherein the data of the
19 vertically adjacent spans are sources.

blending the first data stream, second data stream, and third data stream at a blending unit to produce an output data stream;

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if the output data stream is in a color space that is different from the display device color space, converting the output data stream to the display device color space; and

displaying the output data stream on the display device.

20. A method as defined in claim 17, wherein the display device displays images using interlaced fields, the method further comprising the act of displaying the image including the span included in the line, on the display device.

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1 21. In a system that composites images from one or more sources for display on
2 a display device, a method for blending data streams from the one or more sources, the
3 method comprising the acts of:

4 receiving the data streams at a blending unit, wherein each of the data
5 streams has a color space;

6 directing the data streams having the same color space one or more
7 blending units, wherein each blending unit has an associated color space;

8 blending, by each blending unit, the data streams having the color space that
9 is the same as the associated color space of the blending unit to produce outputs;

10 converting the outputs to a single color space; and

11 blending the outputs to produce an image data stream.

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13 22. A method a defined in claim 21, wherein the single color space is one of
14 RGB and YUV.

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16 23. A method as defined in claim 21, further comprising the act of reading the
17 image data to the display device.

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19 24. A method as defined in claim 21, wherein the act of receiving the data
20 streams further comprises the act of offsetting the data streams.

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22 25. A method as defined in claim 24 wherein the act of offsetting the data
23 streams further comprises the act of centering the data streams around zero.
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1 26. A method as defined in claim 21, wherein the act of blending, by each
2 blending unit, further comprises the act of zeroing the data streams at the one or more
3 blending units whose color space is not the same as the associated color space of the one or
4 more blending unit.

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6 27. A method as defined in claim 21, wherein the act of directing the data
7 streams further comprises the act of multiplying the data streams by an alpha factor.

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